

CLAIMS:

What is claimed is:

1 1. A method of identifying incoming calls, comprising:
2 responsive to detecting an incoming call, determining caller identification
3 information associated with the incoming call without allowing an audible indicator of the
4 incoming call to sound;
5 comparing the caller identification information associated with the incoming call
6 with caller identification information for allowable calling parties;
7 capturing the caller identification information;
8 responsive to determining a match between the caller identification information
9 associated with the incoming call and caller identification information for an allowable
10 calling party, allowing the audible indicator of the incoming call to sound; and
11 retransmitting the caller identification information immediately after allowing the
audible indicator of the incoming call to sound.

1 2. The method of claim 1, wherein the step of allowing the audible indicator of the
2 incoming call to sound further comprises:
3 identifying a communications device within a plurality of communications devices
4 to which the incoming call should be routed; and
5 passing ring signals associated with the incoming call to the identified
communications device.

1 3. The method of claim 2, wherein the step of passing ring signals associated with the
2 incoming call to the identified communications device further comprises:
3 passing ring signals associated with the incoming call to the identified
4 communications device without passing the ring signals associated with the incoming call
5 to another communications device within the plurality of communications devices.

1 4. The method of claim 1, further comprising:
2 responsive to determining no match between the caller identification information

3 associated with the incoming call and caller identification information for an allowable
4 calling party, passing the incoming call to an answering system without allowing the
audible indicator of the incoming call to sound.

1 5. The method of claim 1, further comprising:
2 responsive to the identified communications device being lifted off hook after the
3 ring signals are passed to the identified communications device, maintaining a connection
of the incoming call to the identified communications device.

1 6. A caller identification system, comprising:
2 an incoming line connected to a local exchange;
3 a switch connected between the incoming line and at least one communications
4 device port and selectively permitting ring signals on the incoming line to be passed to the
5 at least one communications device port;
6 a controller controlling the switch and executing a caller identification process
7 which:

8 responsive to detection of an incoming call, captures caller identification
9 information associated with the incoming call without allowing ring signals
10 associated with the incoming call to be passed to the at least one communications
11 device port;

12 compares the caller identification information associated with the incoming
13 call with caller identification information for allowable calling parties stored in a
14 memory accessible to the controller;

15 responsive to determining a match between the caller identification
16 information associated with the incoming call and caller identification information
17 for an allowable calling party, allowing ring signals associated with the incoming
18 call to be passed to the at least one communications device port; and

19 retransmits the caller identification information to the selected
20 communications device port immediately after allowing the ring signals to be
21 passed to the at least one communications device port.

1 7. The caller identification system of claim 6, further comprising:
2 a plurality of communications device ports, including the at least one
3 communications device port, connected to the incoming line,
4 wherein the caller identification process executed by the controller determines two
5 or more ports within the plurality of ports to which the incoming call should be routed and
6 passes the ring signals associated with the incoming call to the identified two or more
 ports.

1 8. The caller identification system of claim 6, further comprising:
2 a transmitter connected to the controller and selectively emitting wireless signals;
3 and
4 a receiver detecting the wireless signals and controlling a remote switch connected
5 between the incoming line and a remote communications device and selectively permitting
6 ring signals on the incoming line to be passed to the remote communications device,
7 wherein the caller identification process executed by the controller:
8 determines whether the incoming call should be connected only to the
9 remote communications device; and
10 responsive to determining that the incoming call should be connected only
11 to the remote communications device, transmits wireless signals via the transmitter
12 to the receiver permitting ring signals on the incoming line to be passed to the
13 remote communications device without permitting ring signals on the incoming
 line to be passed to the communications device port.

1 9. The caller identification system of claim 6, further comprising:
2 a touch tone decoder connected to the controller,
3 wherein the caller identification process executed by the controller:
4 detects touch tone signals on the incoming line and compares the detected
5 touch tone signals to a predetermined pattern; and

responsive to determining that the detected touch tone signals match the predetermined pattern, connects the incoming line to the communications device port.

10. The caller identification system of claim 6, further comprising:
a database of allowable calling party caller identification information in the memory, wherein each entry within the database includes an allowable calling party caller identification information and a port identification for a communications device port within a plurality of communications device ports to which incoming calls from the allowable calling party should be routed.

11. The caller identification system of claim 6, wherein the caller identification process executed by the controller:

compares the caller identification information associated with the incoming call with caller identification information for totally blocked calling parties stored in the memory; and

responsive to determining a match between the caller identification information associated with the incoming call and caller identification information for a totally blocked calling party, awaiting disconnection of the incoming call at the local exchange without permitting the ring signals associated with the incoming call to be passed to any communications device ports.

12. A call handling device, comprising:
an incoming line port;
a sensor connected to the incoming line port;
at least one communications port;
a switch connected between the at least one communications port and the incoming line port;
a caller id signal module connected to the incoming line port and decoding caller id signals associated with incoming calls;

9 a controller connected to the sensor, the caller id signal module, and the switch; and
10 a memory accessible to the controller and containing a plurality of allowable calling
11 party entries each including caller id information for an allowable calling party and a port
12 identification,

13 wherein the controller executes a process for:

14 (a) maintaining the switch in a first position in which ring signals associated
15 with an incoming call are not passed to the at least one communications port;

16 (b) detecting the incoming call and capturing caller id signals associated
17 with the incoming call;

18 (c) comparing the captured caller id signals to entries within the memory;

19 (d) responsive to identifying a match between the captured caller id signals
20 and an entry within the memory, shifting the switch to a second position passing
21 ring signals associated with the incoming call to the at least one communications
22 port; and

23 (e) retransmits the caller identification information to the selected
24 communications device port immediately after allowing the ring signals to be passed to the
at least one communications device port.

1 13. The call handling device of claim 12, wherein the process executed by the
2 controller:

3 responsive to identifying the match between the captured caller id signals and the
entry within the memory, determines a port identification within the matching entry.

1 14. The call handling device of claim 12, wherein the at least one communications port
2 further comprises:

3 a plurality of communications ports each identified by a port identification within
the allowable calling party entries.

1 15. The call handling device of claim 14, wherein the process executed by the
2 controller:

3 determines a port identification within the matching entry;
4 passes the ring signals associated with the incoming call to a communications port
5 identified by the port identification, wherein the identified communications port is the at
6 least one communications port; and
7 responsive to a communications device connected to the identified communications
8 port being lifted off hook after the ring signals are passed to the identified communications
9 port, maintaining a connection between the incoming call and the identified communica-
tions port.

1 16. The call handling device of claim 14, wherein the process executed by the
2 controller:

3 determines a port identification within the matching entry;
4 passes the ring signals associated with the incoming call to all communications
5 ports identified by the port identification, wherein the port identification includes two or
6 more communications ports within the plurality of communications ports; and
7 responsive to a communications device connected to one of the two or more
8 communications ports being lifted off hook after the ring signals are passed to the
9 identified communications port, maintaining a connection between the incoming call and
10 the communications port connected to the communications device which was lifted off
hook.

1 17. The call handling device of claim 12, wherein the process executed by the
2 controller:

3 responsive to detecting ring signals associated with the incoming call at the
4 incoming port, comparing a current time to call screening start and stop times within the
5 memory;

6 responsive to determining that the current time is between the call screening start
7 and stop times, executing the process of steps (a) through (d); and

8 responsive to determining that the current time is between the call screening start
9 and stop times, passing the ring signals associated with the incoming call to the at least one

communications port without executing the process of steps (a) through (d).

1 18. The call handling device of claim 12, further comprising:

2 a sensor connected to the at least one communications port detecting when a
3 communications device connected to the at least one communications port is lifted off
4 hook,

5 wherein the controller, in response to the communications device being lifted off
6 hook in the absence of an incoming call, shifts the switch to the second position to connect
 the at least one communications port to the incoming port.

1 19. The call handling device of claim 12, further comprising:

2 a wireless transmitter connected to the controller, the wireless transmitter capable
3 of sending wireless control signals to a receiver connected between a remote communic-
4 ations device and an incoming line to connect the remote handset to the incoming line upon
5 determination that the incoming call should be routed to the remote communications
6 device.

7 20. A method of identifying incoming calls, comprising:

8 responsive to detecting an incoming call, determining the presence of caller
9 identification information associated with the incoming call without allowing an audible
10 indicator of the incoming call to sound;

11 selecting a default mode when there is not any caller identification information
12 associated with the incoming call;

13 handling the call in accordance with the selected default mode.

14 22. The method of claim 20, wherein the handling step comprises transmitting the call
15 to a live port.

16 23. The method of claim 20, wherein the handling step comprises transmitting the call
17 to a handset.

18 24. The method of claim 20, wherein the handling step comprises transmitting the call
19 to an answering system.

20 25. The method of claim 24, wherein the handling step further includes suppressing
21 transmission of the ring bursts associated with the incoming call.

22 26. The method of claim 20, wherein the incoming call is not retransmitted.

23 27. The method of claim 20, wherein the default step is controlled by the user.